

Notice of Allowability**Application No.**

10/579,954

Examiner

ROBERT C. BOYLE

Applicant(s)

YAN ET AL.

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to filing of 6/29/2011.
2. ☒ The allowed claim(s) is/are 40,43-53 and 55-58.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 1/12/2011
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 8/3/2011.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/ROBERT C BOYLE/
Examiner, Art Unit 1764

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1764

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with David Burleson on 8/3/2011. Applicant gave permission to correct the dependency of claim 55 to be dependent on the independent claim 40, renumbered as claim 1.
3. The application has been amended as follows:

Claim 40, renumbered as claim 1.

Claim 43, renumbered as claim 2, in the first line, change "claim 40" to read "claim 1".

Claim 44, renumbered as claim 3, in the first line, change "claim 40" to read "claim 1".

Claim 45, renumbered as claim 4, in the first line, change "claim 44" to read "claim 3".

Claim 46, renumbered as claim 5, in the first line, change "claim 40" to read "claim 1".

Claim 47, renumbered as claim 6, in the first line, change "claim 40" to read "claim 1".

Claim 48, renumbered as claim 7, in the first line, change "claim 40" to read "claim 1".

Claim 49, renumbered as claim 8, in the first line, change "claim 48" to read "claim 7".

Claim 50, renumbered as claim 9, in the first line, change "claim 49" to read "claim 8".

Claim 51, renumbered as claim 10, in the first line, change "claim 50" to read "claim 9".

Claim 52, renumbered as claim 11, in the first line, change "claim 51" to read "claim 10".

Claim 53, renumbered as claim 12, in the first line, change "claim 52" to read "claim 11".

Claim 55, renumbered as claim 13, in the first line, change "claim 54" to read "claim 1".

Claim 56, renumbered as claim 14, in the first line, change "claim 55" to read "claim 13".

Claim 57, renumbered as claim 15, in the first line, change "claim 56" to read "claim 14".

Claim 58, renumbered as claim 16, in the first line, change "claim 57" to read "claim 15".

REASONS FOR ALLOWANCE

4. The following is an examiner's statement of reasons for allowance:
5. The present claims are allowable over the 'closest' prior art, namely Hoxmeier (US 6,258,891).
6. The limitations that are the basis for the allowance appear in claim 40: a method of making an amine functionalized polymer by first reacting, in a reaction medium (solvent), a living polymer consisting essentially of a polyene monomer with a cyclic compound having three or four siloxane units to give an intermediate polymer structure, where the terminus of the structure is the radical of the cyclic compound constituting no more than 400 g/mol of the intermediate polymer structure, and second, reacting the intermediate polymer structure with an amine having an active hydrogen attached to the nitrogen atom.
7. Claims 43-53 and 55-58 depend from claim 40 and therefore contain the limitations of claim 40.
8. The claims are allowable because Hoxmeier does not teach the claimed reaction medium (solvent) or molecular weight of the terminal group. Rather, Hoxmeier teaches end-capping the living polymer in a solventless system to give end units having molecular weights of 500-100,000. One of ordinary skill in the art would not look to a reference teaching a solventless

reaction to arrive at the instant claims, which require a solvent. The method of Hoxmeier falls outside the scope of claim 40. Furthermore, Hoxmeier does not provide any motivation to use a solvent or to have siloxane end units with a molecular weight of less than 400 g/mol.

9. Because a method of making an amine functionalized polymer by first reacting, in a reaction medium (solvent), a living polymer consisting essentially of a polyene monomer with a cyclic compound having three or four siloxane units to give an intermediate polymer structure, where the terminus of the structure is the radical of the cyclic compound constituting no more than 400 g/mol of the intermediate polymer structure, and second, reacting the intermediate polymer structure with an amine having an active hydrogen attached to the nitrogen atom of claim 40 is not found in the prior art, it is clear that the rejections of record are untenable and thus the present claims are passed to issue.

10. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT C. BOYLE whose telephone number is (571)270-7347. The examiner can normally be reached on Monday-Thursday, 9:00AM-4:00PM Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROBERT C BOYLE/
Examiner, Art Unit 1764

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Supervisory Patent Examiner, Art Unit 1764